REMARKS

During the course of preparing a Brief on Appeal, Applicant noticed an ambiguity or perhaps an error in the claim language. The error is in using the term "antenna base" in the claim language. What was meant was the plane of the deployed antenna.

As discussed in the specification, the antenna base is the base 16 (see FIGs. 3 and 4) on which the antennas 12 and 14 are mounted. It is the deployed antennas 12 and 14 (not the base 16) which are perpendicular to the ear piece 20. Thus reference in the claims to the base of the antenna being perpendicular to the ear piece 20 is at best ambiguous.

Applicant has amended the claims in this RCE case to clarify this relationship.

At the bottom of page 2 of the Examiner's May 18, 2005 Final Action, a discussion is had of the Arai '579 reference. That discussion points out that in Arai, the antenna plate which comprises the antenna is positioned perpendicular to the ear piece. That is the case in Arai.

Applicant recognizes that there is a similar arrangement in Applicant's design. The antennas 12 and 14 are mounted, when deployed, along a plane perpendicular to the plane of the ear piece.

It is the axes of transmission of the lobes of energy shown in FIG. 6(a) of Arai that are nowhere near perpendicular to the antenna substrate. In the FIG. 6(a) embodiment shown, these two axes are off perpendicular by 40 degrees. Thus one or the other of the two lobes will impinge on the user's head.

A Seeming Similarity

Arai (col. 5, lines 24-36) teaches that in Japan, the elevation angle from ground to satellite is between 36 and 60 degrees. This is the elevation from a plane parallel to ground. Assume an axis or pole perpendicular to ground. Thus the angle of the beam is between 30 degrees and 54 degrees away from the vertical.

Applicant teaches and claims a conical beam having an angle of 30 degrees from the axis perpendicular to the plane 14P of the antenna (see Figs. 5 and 6).

Thus Applicant's maximum angle of 30 degrees from the vertical covers a zone that is outside Arai's maximum angle to the horizontal of 60 degrees.

The following sketch illustrates this relationship. Take Arai's teaching of placing the antenna plate (deployment element 12 of Fig. 4 (b) or 19 of Fig. 5 (b) parallel with the ground surface (see Col. 4, lines 34-36. In that position consider Figure A on the following page. The 60 degree maximum angle of elevation from earth is outside the 60 degree included angle around the perpendicular to earth. The two 60 degree angles seem similar but refer to mutually exclusive zones. On top of that is the fact that Arai's angle is for the purpose of sighting a satellite and Applicant's angle is for the purpose of avoiding impingement on the head of the user. A seeming similarity of two 60 degree angles is to (a) two different and mutually exclusive zones and (b) for two different purposes.

Arai and Satellite Communication

Arai teaches that the deployment element (antenna plate) 12 has to be oriented, as shown in FIG. 4(b) so that it is substantially parallel to the earth surface (see column 4, lines 29-36). This rotation of the antenna deployment element to be parallel with the earth surface is to optimize satellite communication. (see column 5, lines 10-19).

The teachings of Arai are of deployment of an antenna and an antenna beam for the purpose of satellite communications. Those teachings are irrelevant to the purpose of protecting the user's head, which is the purpose of Applicant's design.

Arai and Impingement of Transmitted Radiation on the User's Head

Applicant suggests that the direction of the Arai cone beams shown in FIG. 6(a) on the antenna substrate of FIG. 6(b) where that substrate is perpendicular to the ear piece would guarantee that substantial electromagnetic energy would impinge on the head of the user. Rotation of that antenna plate 12 as shown in FIG. 4(b) to being parallel to the earth's surface might or might not have some effect on how much of that radiation impinges on the head of the user. But it does not serve Applicant's purpose of providing a radiation pattern arrangement which substantially misses the head of the user.

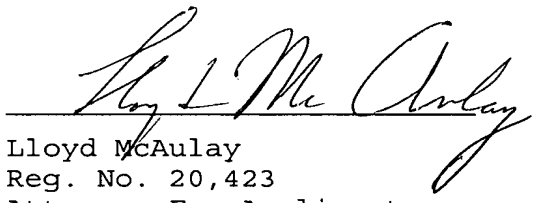
Arai recognizes that his design will cause radiation to impinge on the head of the user. He discusses (see column 5, lines 55-65) the value of keeping the patch antenna at the tip of the deployment element spaced away from the user's head to reduce the magnetic field and protect the human body. But Arai only says "reduce" and not substantially eliminate. That is because the lobes of radiation will inevitably impinge on

the user's head. The only issue is to reduce the density of the flux by spacing the origin of the radiation away from the head as far as possible.

By contrast, Applicant takes an entirely different tack. Applicant, through the geometry of transmission as well as of mounting achieves the result of substantially eliminating impact of radiation on the user's head.

In view of the revised claims and the above comments, Applicant respectfully requests reconsideration by the Examiner.

Respectfully submitted,



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